

REMARKS

In the patent application, claims 1-21 are pending. In the office action, all pending claims are rejected.

Applicant has canceled claims 1, 2, 8, 13 and 19, amended claims 3, 6, 11, 17 and 20, and added new claims 22-24.

Claim 3 has been amended to include the limitation of claim 1.

Claim 6 has been amended to include the limitation that the received chips are obtained from a signal stream in space-time transmit diversity transmission as claimed in claim 3.

Claim 11 has been amended to include the limitation that the transmitter transmits a signal stream in space-time transmit diversity transmission as claimed in claim 9. As with claim 3, claim 11 has also been amended to claim a spread-spectrum receiver, rather than a W-CDMA receiver. It is known in the art that a W-CDMA receiver is a form of spread-spectrum receivers.

Claim 17 has been amended to include the limitation that the receiver receives communication signals in space-time transmit diversity transmission as claimed in claim 3.

Claim 20 has been amended to include the limitation that the communications signals are transmitted from a transmitter having two or more antennas for transmitting the signal stream for achieving the space-time transmit diversity transmission as claimed in claim 14.

New claim 22 is dependent from claim 11 and has the further limitation that the communications system comprises a W-CDMA system.

New claim 23 is dependent from claim 3 and has the further limitation that the spread-spectrum receiver comprises a W-CDMA receiver.

New claim 24 claims a spread-spectrum communications system which includes means for transmitting a signal stream, means for chip level filtering, means for despreading the common pilot channel and means for estimating the signal-to-interference ratio. The means for transmitting is illustrated in Figure 2 as antennas Tx1 and Tx2; the means for chip level filtering is illustrated in Figure 2 as the chip-level filtering blocks; the means for despreading is illustrated in Figure 2 as the CPICH despreading blocks; and the means for estimating the signal-to-interference ratio is illustrated in Figure 2 as the SINR estimation block.

New claim 25 is dependent from claim 24 and has the further limitation that the estimated signal-to-interference ratio is for use by a user equipment for reporting CQI as claimed in claim 7.

No new matter has been introduced.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Petre et al.* (U.S. Patent No. 7,158,558, hereafter referred to as *Petre*), in view of *Onggosanusi et al.* (U.S. Patent Application Publication No. 2002/0196842, hereafter referred to as *Onggosanusi*).

In rejecting claims 1, 6, 7, 11, 12, 17 and 18, the Examiner states that *Petre* discloses a method, a receiver, a communications system and a communication device as claimed. The Examiner admits that *Petre* fails to disclose estimating SINR from the despread CPICH, but points to *Onggosanusi* for disclosing that feature.

Applicant has canceled claim 1. Applicant has also amended claims 6, 11 and 17 to include the limitation that the signal stream is transmitted in space-time transmit diversity transmission, as claimed in claims 3 and 9.

In rejecting claims 2, 8, 13 and 19, the Examiner states that *Petre* discloses a communications system having a transmitter with a single antenna for single antenna transmission.

Applicant has canceled claims 2, 8, 13 and 19.

In rejecting claims 3, 9, 14 and 20, the Examiner states that *Onggosanusi* discloses multiple antennas.

While it is true that *Onggosanusi* discloses a communications system having a number of transmit antennas as shown in Figures 1 to 4, the multiple transmit antenna system is used in a multi-input multi-output (MIMO) system. (see paragraphs [0008], [0009], [0013], [0016], [0049], [0062]). In one of the embodiments, *Onggosanusi* uses four transmit antennas TAT₁ to TAT₄ and a larger number of receive antennas RAT₁ to RAT_Q (Q>4) in a MIMO system with double space-time block coded transmit antenna diversity (DSTTD). In this DSTTD system, *Onggosanusi* uses two STTD encoders to combine information multiplexing with transmit diversity MIMO.

It is respectfully submitted that a signal transmitted in a DSTTD system is different from a signal stream in the space-time transmit diversity transmission, because a DSTTD system applies information multiplexing into two STTD blocks. For example, one of the STTD blocks transmits symbols $S_{1,1}$ and $S_{1,2}$ whereas the other STTD block transmits symbols $S_{2,1}$ and $S_{2,2}$ (see paragraph [0083]). The spatially parallel transmission causes additional interference. This interference would not be correctly taken into account by the claimed pilot processing for the space-time transmit diversity transmission scheme. Thus, DSTTD transmission is irrelevant to the claimed invention.

For the above reasons, *Petre*, in view of *Onggosanusi*, fails to render claims 3, 9, 14 and 20 obvious.

Claims 6, 11 and 17 have been amended to include the limitation that the signal stream is transmitted in space-time transmit diversity transmission, as claimed in claims 3 and 9. New claim 24 also includes the same limitation. For reasons regarding claims 3 and 9 above, claims 6, 11, 17 and 24 are also distinguishable over the cited *Petre* and *Onggosanusi* references.

As for claims 4, 5, 7, 10, 12, 15, 16, 18, 21-23 and 25, they are dependent from claims 3, 6, 11, 17 and 24 and recite features not recited in claims 3, 6, 11, 17 and 24. For reasons regarding claims 3, 6, 11, 17 and 24 above, claims 4, 5, 7, 10, 12, 15, 16, 18, 21-23 and 25 are also distinguishable over the cited *Petre* and *Onggosanusi* references.

CONCLUSION

Claims 3-7, 9-12, 14-18 and 20-25 are allowable. Early allowance of claims 3-7, 9-12, 14-18 and 20-25 is earnestly solicited.

Respectfully submitted,



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